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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Johann Meseth

GR 98 P 3112

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05/26/2006

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EXAMINER

AWAI, ALEXANDRA F

ART UNIT

PAPER NUMBER

3663

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-4, 7 and 8 have been considered but are moot in view of the new grounds of rejection. Claims 1-4, 7 and 8 have been examined; claims 5, 6 and 11-14 having been cancelled, and claims 9 and 10 being withdrawn as directed to nonelected inventions.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2, 4 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear from the language of claim 2 how and in what manner a condenser is able to define a region around itself, or what such a defined region encompasses.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3663

5. Claims 1-4, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gluntz et al.

Gluntz et al. disclose a pressure suppression containment system for a boiling water reactor comprising an interior space (20), a condensing chamber disposed within and filled with coolant (22), a pressure chamber having a top region (10), a condenser in fluid communication with the pressure chamber (54), and a multiplicity of vertical flow channels that function as both condensing pipes for steam and drain pipes for noncondensable gas (27). These vertical flow channels are permanently open flow paths that define a direct connection to the condensing chamber without being connected to the condenser. The system is configured to transport the noncondensable gas from the interior space to the condensing chamber plenum and then actively condense steam from the drywell in the condenser, as well as to passively remove steam and noncondensable gas into the condensing chamber.

It is a well known fact that noncondensable gases of particular interest in the nuclear field (e.g., hydrogen and nitrogen) are more buoyant than water vapor, leading them to rise and accumulate in relatively higher concentration at the top of the interior space and thus around the condenser or condenser inlet. It is also commonly understood that noncondensable gas from the interior space must be separated from the steam to provide effective operation of condensers (col. 2, lines 57-61). In the absence of active gas separators as provided in the referenced art, or in addition to them to provide redundancy and increase system productivity, passive means such as the flow channels (27) may be used to remove the noncondensable gas and thus improve suppression system performance. It would have been obvious to one skilled in the art at the time of invention to modify the flow channels disclosed by Gluntz et al. so that their openings would

Art Unit: 3663

be above the condenser or condenser inlet in order to use those modified flow channels to advantageously siphon relatively more noncondensable gas than steam into the condensing chamber according to well-known scientific phenomena and knowledge commonly available in the art, i.e., configuring them as drain pipes in accordance with claims 1 and 2.

Gluntz et al. teach that noncondensable gas siphoned into the condensing chamber is buoyed upwardly through the pool water into the condensing chamber air space disposed above the filling level (col. 3, lines 3-23). This is proof of the widespread understanding of noncondensable gas behavior and a motivation for modifying those flow channels that are *not* configured to siphon relatively more noncondensable gas than steam into the condensing chamber, but rather are configured as condensing pipes. That is, it would have been obvious to one skilled in the art at the time of invention to configure the ends of the condensing pipes to be below the ends of the drain pipes in order that the buoyant noncondensable gas being siphoned into the condensing chamber by the drain pipes be prevented from floating back into the interior space via the condensing pipes. Instead, the noncondensable gas would be advantageously retained in the condensing chamber plenum where it would not adversely affect condenser operation. Thus, by applying only known technology (i.e., installing/altering pipes) in accordance with only commonly understood principles (i.e., thermodynamics of real systems), in an obvious manner, the system disclosed by the prior art may be made to function more effectively in the passive mode, thereby increasing safety.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

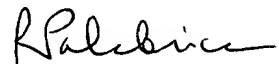
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Awai whose telephone number is (571) 272-3079.

The examiner can normally be reached on 9:30-6:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AA
May 17, 2006


R.J. PALABRICA
PRIMARY EXAMINER